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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,572	04/06/2001	Takashi Ueno	4786US	6508

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EXAMINER

HON, SOW FUN

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 03/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/828,572

Applicant(s)

UENO, TAKASHI

Examiner

Sow-Fun Hon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Does the term "element" mean the element in its metallic form, uncombined with any other element in the Periodic Table?
3. In independent claims 7, 23, 27, are the elements Si, Ta, Ti, Mo, Cr, Al in their elemental metallic forms, as opposed to ZnO₂, SiO₂, TiO₂, Ta₂O₅, ZrO₂, In₂O₃, SnO₂, Nb₃O₅, MgO which are the oxides, while ITO is the acronym, not the chemical formula, for indium tin oxide alloy?
4. In claims 5, 14, it is unclear if the term "resin" means plastic resin.
5. In claims 18-21, it is unclear what the term "building glass" means.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-11, 13-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukuyoshi et al. (US 5,667,853).

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Fukuyoshi et al. teaches a liquid crystal display device which comprises a reflective wiring electrode (column 1, lines 5-60 and column 3, lines 1-20) formed from a laminate (multilayered) conductive film comprising a silver-based based layer formed of a silver-based metallic element (material) laminated on both sides with a first layer and a second layer of transparent metal oxide (column 2, lines 20-70). One embodiment of the Ag (silver)-based layer is an alloy of Ag (silver) with 0.1 to 3 atomic percent of Cu (copper) and Au (gold) (column 11, lines 40-50). Other elements which can take the place of Cu and Au are Ti (titanium), Al (aluminum), Ni (nickel), Pd (palladium) (column 5, lines 30-45). The first transparent layer of metal oxide is formed on the transparent (glass) substrate, and the Ag-based layer (silver thin layer) is formed on top of it. The deposition method is sputtering (column 13, lines 40-45). The transparent metal oxide layer is formed of a main component (primary metal oxide) of indium oxide with a secondary oxide of ZrO_2 , SiO_2 , TiO_2 , Ta_2O_5 , Nb_3O_5 (zirconium, silicon, titanium, tantalum, niobium, chromium) (column 4, lines 1-50). The transparent substrate is formed of glass or plastic resin (column 9, lines 40-55).

Fukuyoshi et al. teaches that the silver layer establishes a high contrast display on the screen (column 2, lines 20-30).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuyoshi et al.

Fukuyoshi et al. has been discussed above, and teaches a liquid crystal display device which comprises a reflective wiring electrode formed from a laminate conductive film comprising a reflective Ag (silver)-based based layer. One of ordinary skill in the art is familiar with a laptop having a liquid crystal display monitor or a cellular phone with a liquid crystal display panel, both of which qualify as portable terminal devices.

10. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuyoshi et al. as applied to claims 26-29 above, and further in view of Gibbons et al. (US 5,589,280).

Fukuyoshi et al. has been discussed above, and teaches the liquid crystal display device which comprises a reflective wiring electrode formed from a laminate conductive film comprising a reflective silver-based based layer. Fukuyoshi et al. fails to teach that metal in its elemental form instead of the oxide may be used as the base layer between the silver-based reflective layer and the substrate.

Gibbons et al. teaches that in reflector films (column 1, lines 5-70), the adhesion to plastic substrates of reflective metals such as Ag (silver), Cu (copper) and Au (gold) (abstract) is improved if a primer layer of a metal is deposited between the two layers (column 2, lines 40-50). Silver is taught to be the preferred reflective metal (column 5, lines 40-50). The adhesion promoting metal is Si(silicon), Ta(tantalum), Ti(titanium), Mo(molybdenum), Cr(chromium) or Al(aluminum) which have to be deposited as metals (column 7, lines 20-35) in order for them to be adhesion-promoting (column 15, lines 1-15) in lieu of the list of metal oxides (column 6, lines 10-45). Gibbons et al. thus teaches that the Si, Ta, Ti, Mo, Cr, Al metals can take the place of

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the listed metal oxides for adhesion of the Ag-based layer to the plastic resin substrate in order to take advantage of their physical properties.

Because Gibbons et al. teaches that the Si, Ta, Ti, Mo, Cr, Al metals act as adhesion promoters for the Ag-based reflective layer to the plastic resin substrate, it would have been obvious to one of ordinary skill in the art to have used the metal adhesion promoters of Gibbons et al. in lieu of the indium oxide base layer in the invention of Fukuyoshi et al. in order to obtain a highly reflective and cohesive conductive laminate.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

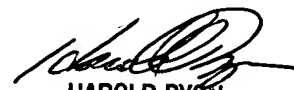
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH

Sow-Fun Hon

03/21/03


HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

3/24/03